

REMARKS

Reconsideration of the Office Action of February 10, 2004 is respectfully requested and entry of the foregoing claim amendments is respectfully requested. In summary, in the claim Amendments claim 1 has been amended to include the subject matter of claim 2, which has been canceled; new dependent claims 23 to 30 have been added (depending from claim 1); independent claim 31 (with dependent set 32 to 37) has been added; independent claim 38 with dependent claim 39 have been added; independent claim 40 has been added. No new matter is considered to have been introduced.

Applicants would like to thank Examiner Vinh for the courtesies extended in the interview conducted May 7, 2004. As noted during the interview, the Swejkowski '398 reference was not applied and is not applicable to claim 8 and the currently amended claim 1 featuring an induction coil to convert the etching gas into a plasma. As further discussed in the interview, claims 2 and 8 were rejected in the Office Action as being considered rendered obvious by Collins et al. '501. In that rejection it was recognized by the Examiner that Collins does not disclose the etching gas at a rate/flow that fall within the flow rate of claims 2 and 8. It was indicated in the Office Action that the claimed flow rate lacking in the '501 reference was deemed achievable under the case law relative to "a result effective variable". However, as noted in the interview as well as the case law cited itself, the rejection is non-applicable when unexpected results are shown.

During the interview it was noted that, in addition to the trend for induction coil generated plasma with a diffusion of the plasma radicals to the object being treated, being at lower flow rates (e.g., 125 sccm), the indication in the Board Opinion that unexpected

results was considered not shown in Figure 3 of the original application was deemed incomplete in the sense that Figure 3 does show an increase in uniformity of etch rate over the surface of the object being treated as explained on page 7, lines 12 to 28, for example. Figure 3 illustrates an improvement in uniformity in going from 125 sccm to 250 sccm as seen from the difference in slope rate, particularly in the outer 20% of the object inward of the most peripheral 20% shown. This enhancement in uniformity is shown in Figure 3 to be even more pronounced for the 500 sccm and 1000 sccm rates graphed. Thus, it is respectfully submitted that the Collins et al reference fails to render obvious claims 2 and 8 in failing to appreciate, disclose or suggest the flow rate under the induction coil plasma environment currently set forth in those claims.

New independent claim 31 also is respectfully submitted to be in condition for allowance in presenting a method wherein the etching gas is converted into a plasma by induction coupling within the plasma producing chamber and having the radicals diffuse down from the plasma producing chamber into a larger reaction chamber into which the plasma producing chamber opens. This arrangement is at a flow of 8.4 sccm/1 liter of reaction chamber and provides the above noted enhanced uniformity as discussed above.

New independent claim 38 features the flow of 8.4 sccm/1 liter of reaction chamber feature as well as a flow rate of 250 sccm to 1000 sccm which is well above the typical lower flow rate of 125 sccm described above.

New independent claim 40 also includes the feature of a flow of 8.4 sccm/1 liter of reaction chamber with the flow rate being 500 sccm or above, which provides the above noted uniformity enhancement.

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Applicants respectfully submit that this Amendment and the above Remarks obviate the outstanding rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees under 37 CFR §§ 1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300; Order No. 033082.003.

If an extension of time under 37 C.F.R. § 1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The extension fee should be charged to Deposit Account No. 02-4300; Order No. 033082.003.

Respectfully submitted,

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